

45

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	21713
<b>Description:</b> Lug Assembly 206L/407 GHW Lug	<b>Part Number:</b>	D2659
<b>Dwg:</b> D2659 Rev. A; D2658 Rev. D; D2657 Rev. A	<b>Qty:</b>	30 35
Page 1 of 1		

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveller	HA	04.10.18	30
2	PG	Issue P/O: 7206989 Laser cut per Drawing Flat pattern D2658 <b>Material release note required</b>	L	04.11.20	30
3	RG	Receive and inspect for transit damage <b>Ensure the material release note attached</b>	L	04-11-08	35
4	QC6	Inspect dimensions per template D2658T1	ml	04-11-12	35
5	GA	Deburr as required.	BE	04-11-15	35
6	GB	Bend on CNC brake using DT8254 <b>Identify as D2658</b>	Z	04.12.15	35
7	QC5	Inspect work to Step 6	DA	04/12/15	35
8	MV	Cut blanks: 2.200" long Material: ASTM A36 steel bar 2.50" x 0.75" thick 415138 (M1010-B0.750 x 02.500) Batch 417669	ML	05/11/03	36
9	MV	Machine per folio FA040 and Dwg D2657	SD	05/11/13	36
10	QC2	Inspect parts as they come off the CNC machine. <b>Identify as D2657</b>	SD	05/11/13	36
11	QC8	Second inspection	ML	05/11/13	36
12	WS	Weld as per Dwg D2659 using location Jig DT8484 Qty Description Batch A/R Steel Rod 1716961	CPL	05.12.14	35
13	MV	Tumble & Deburr	DL	05/12/15	35
14	QC9 & 5	Inspect weld and work to Step 13	ML	05/12/14	35
15	FP	Powder Coat White (Ref 4.3.5.2) per QSI 005 4.3	ML	06-02-11	35
16	QC3	Inspect Powder Coat	ML	06 02 13	35
17	ST	Identify and Stock ST 141	CH	06/02/13	35
18	AC	Cost / part	SUR	06/02/14	35
19	DC	Close W/O Inspect Level 21	CH	06/02/14	35
20					

Rev	Date	Change	Rev	Approved
A		New Issue	BW	
B	98.09.10	Inspection levels re format	CS	
C	02.06.14	Combined D2658 flat & D2658 bent into D2659	NG	
D	02.09.20	Re-format; Incorporated D2657; D2658	KJ	

Ltd

**WORK ORDER CHANGES****PROCEDURE CHANGE****By****Date****Qty****Approval**  
Mfg / Design  
Mgr**Approval**  
QC Inspector**NCR:****WORK ORDER NON-CONFORMANCE (NCR)****DATE****STEP****Description of NC**  
Section A**Corrective Action** Section B**Initial**  
Design Mgr**Action Description**  
Design Mgr**Sign &  
Date****Verification**  
Section C**Approval**  
Design Mgr**Approval**  
QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date &amp; initial all entries

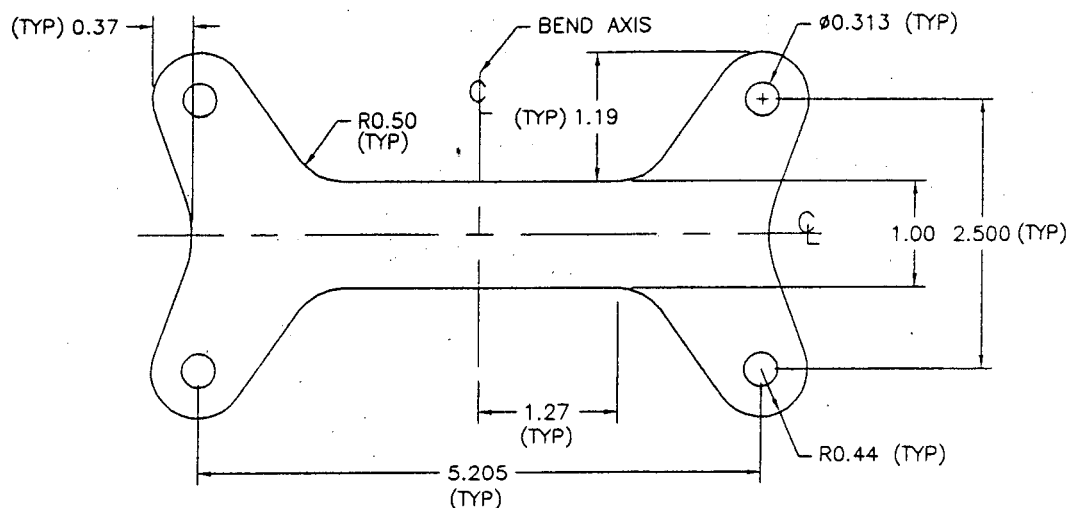
QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_



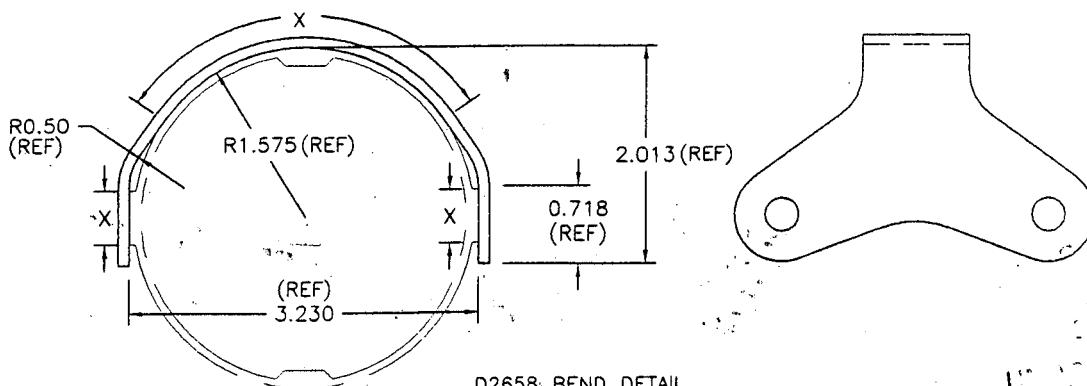


DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>CP</i>	APPROVED <i>LE</i>	DRAWING NO. D2658	REV. D SHEET 1 OF 1
DATE 98.12.14		TITLE LUG BRACKET	SCALE 5:9
A	97.11.03	NEW ISSUE	
B	97.12.18	5.205 WAS 5.015, ADD TOOLING HOLE	
C	98.10.23	UPDATE MATERIAL (TSR A1114)	
D	98.12.14	REMOVE TOOLING HOLE (TSR A1040)	

RELEASED  
98.12.14 DS



D2658 FLAT PATTERN  
SYMMETRICAL ABOUT BOTH CENTRE-LINES (C)



D2658 SHOULD BE BENT SO THAT IT IS WITHIN 0.010 OF THE OUTSIDE PROFILE SUBSTITUTED FOR THE D2600-1 EXTRUSION IN THE AREAS INDICATED 'X' ABOVE.

WORK ORDER  
NO. 21713

GENERAL NOTES

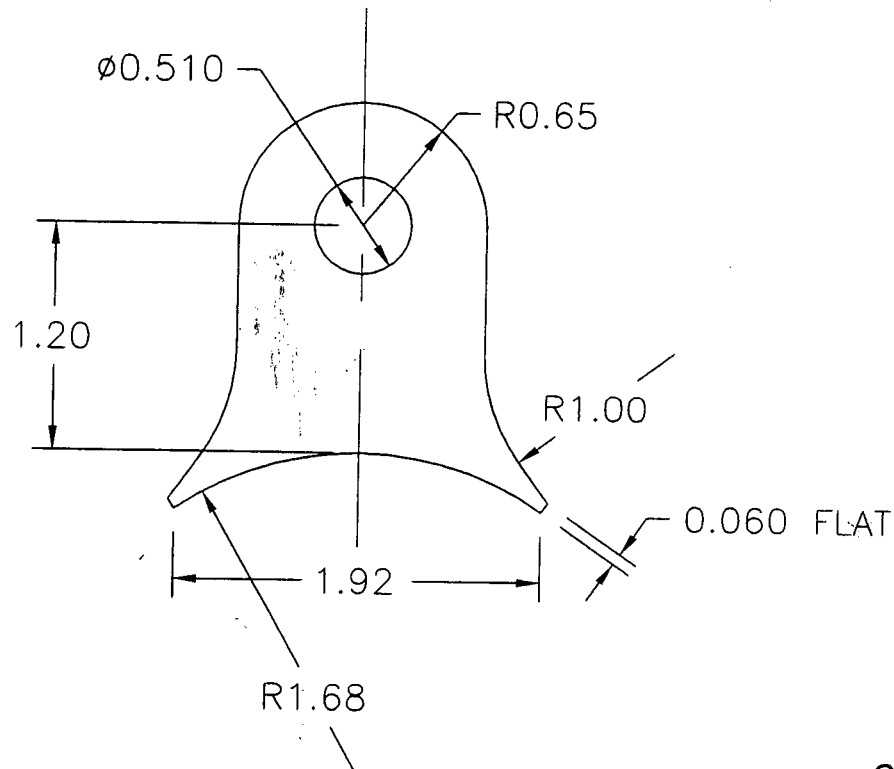
MATERIAL: ASTM A36/A366/A569/A570 OR AISI 1010-1025 STEEL 0.100 THICK (12 GAUGE)  
MIN. ULTIMATE TENSILE STRENGTH = 42 ksi  
MIN. YIELD TENSILE STRENGTH = 28 ksi

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED  
ALL DIMENSIONS ARE IN INCHES



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2657	REV. A SHEET 1 OF 1
DATE 97.11.03		TITLE LUG	SCALE 1:1
A	97.11.03	NEW ISSUE	

RELEASED  
97/11/07 DS



SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE

WORK ORDER  
NO. 21713

BREAK ALL SHARP CORNERS ~~0.010 TO 0.020~~  
MATERIAL: ASTM A36 STEEL 0.375 THICK  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED  
PART IS SYMMETRIC ABOUT CENTER-LINE

# Job Costing Report

Dart Aerospace Ltd.  
Hawkesbury

Oct 18, 2004  
10:19 am

Work Order No : 0021713  
Project Name : D2659  
Project For : WK445  
Work Order Type : Main  
Main WO Number :  
House Part Number : D2659  
Description : Lug Assembly  
Manufactured : Yes  
Amount Req'd : 30  
Amount Done : 0  
Start Date : 10-18-04  
Est Finish Date : 11-04-04  
Act Finish Date :  
Drawings Req'd : No  
Ok for Approval :  
Approval Rec'd :

Department Code:  
Burden Flags : NNNNNNNN  
WO Status : Open  
Invoice State : Not Invoiced  
Invoice Date :  
Invoice Number :  
Invoice Amount : 0.00  
Order Entry No :  
OE Value : 0.00  
Est Margin : 0.000%  
Actual Margin : 0.000%  
\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00		
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden :	0.00	0.00	0.00		
Total Cost :	0.00	0.00	0.00		
Margin :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/(Loss) :	0.00	0.00



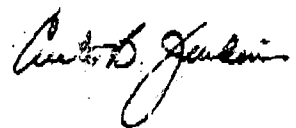
California Steel Industries  
14000 San Bernardino Ave.  
Fontana, California 92335  
Ph (909) 350-6300

# CERTIFIED TEST REPORT

CUSTOMER ORDER P30307ME003	NO. NUMBER 02-2962-01	SHIPPING DATE 05/22/03	CAR NUMBER RR: BNSF534686	TALLY NUMBER PO 250279105 1/
B I L L T O WILKINSON STEEL AND METALS A DIVISION OF PREMETAL CO., INC. 888 S.E. MARINE DR., VANCOUVER BC, CANADA, V5X2V3		S H I P T O WILKINSON STEEL AND METALS A DIVISION OF PREMETAL CO., IN 888 S.E. MARINE DR. VANCOUVER BC V5X 2		

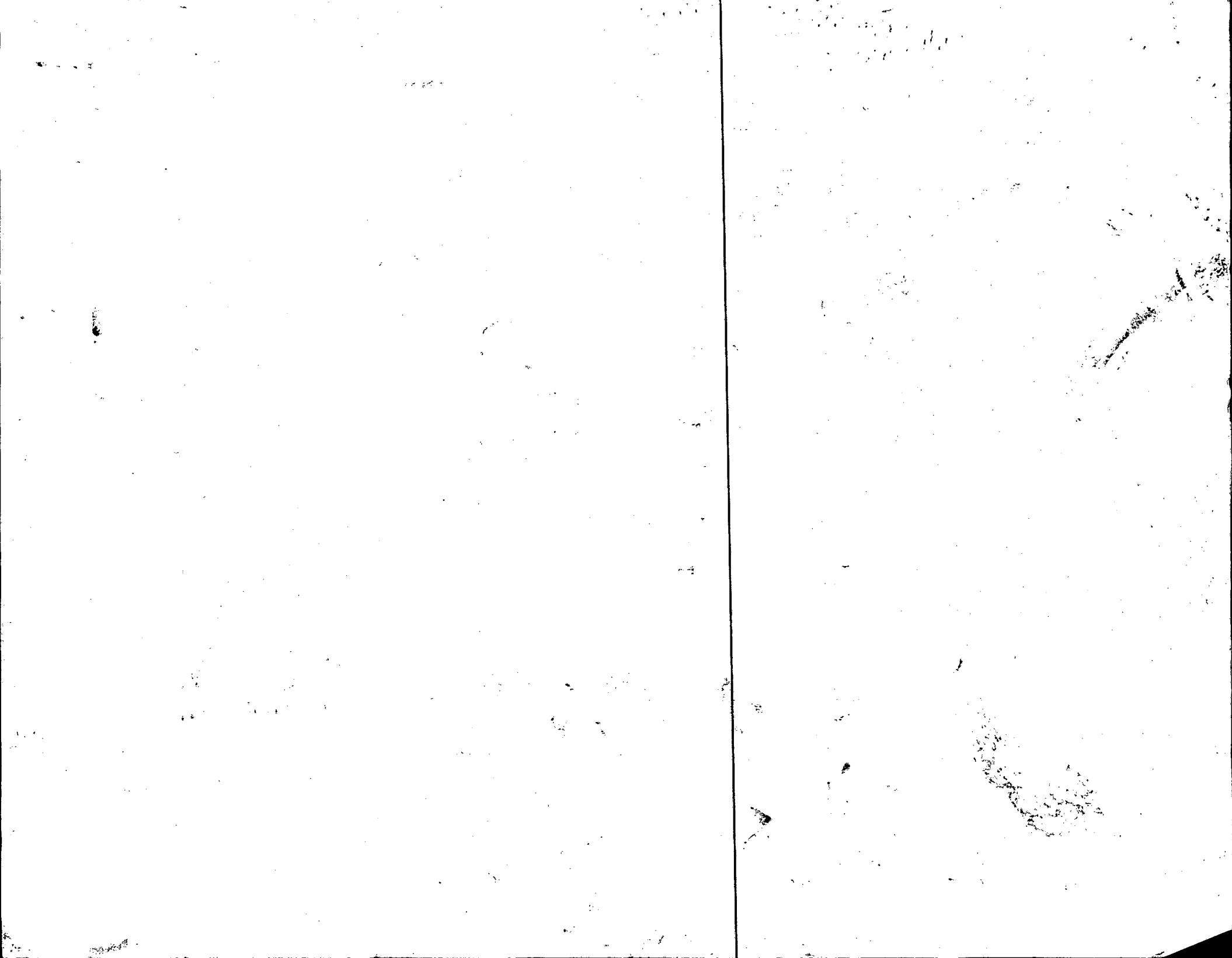
MARK ALL DOCUMENTS W/P.O. P30307ME003 FAX TALLIES AT TIME OF SHIPMENT TO MEL ELIAS FAX  
#604-301-3244.

END USE WAREHOUSE STOCK
PROD H.R. COILS - P & O - PRIME
SPEC CQ-ASTM-A-569-96

T/R 1	INSPECTION MILL			
DESCRIPTION		COILS, PIECES OR BUNDLES	HEAT NUMBER	I CERTIFY THE FOLLOWING TEST INFORMATION TO BE CORRECT AS CONTAINED IN THE RECORDS OF THE COMPANY.   CHIEF - LABORATORY SERVICES
.1040 x 48.0000 x COIL NOM ME		4 2	M64660 M64734	
12 GA				

MECHANICAL PROPERTIES								CHEMICAL ANALYSIS														03:49:17		03/22/03		
HEAT OR LOT NUMBER	SLAB NUMBER	LOD	YIELD KSI	TENSILE STRENGTH KSI	% ELONGATION		BEND TEST	C	Mn	P	S	SI	Cu	Ni	Cr	Mo	Al	V	Co	Ti	N					
					5	7																				
M64660								07	24	007	005	014	01	00	00	00	046	001	002	000	003					
M64734								06	25	009	007	013	01	01	00	00	047	001	002	000	004					
CTR-001 PTLU022L 890712																										

12 ga P+O





# Job Costing Report

Dart Aerospace Ltd.  
Hawkesbury

Nov 08, 2005  
10:07 am

Work Order No : 0021713  
Project Name : D2659  
Project For : WK445  
Work Order Type : Main  
Main WO Number :  
House Part Number : D2659  
Description : Lug Assembly  
Manufactured : Yes  
Amount Req'd : 30  
Amount Done : 0  
Start Date : 10-18-04  
Est Finish Date : 11-04-04  
Act Finish Date :  
Drawings Req'd : No  
Ok for Approval :  
Approval Rec'd :

Department Code:  
Burden Flags : NNNNNNNN  
WO Status : Open  
Invoice State : Not Invoiced  
Invoice Date :  
Invoice Number :  
Invoice Amount : 0.00  
Order Entry No :  
OE Value : 0.00  
Est Margin : 0.000%  
Actual Margin : 0.000%  
\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	102.90	100.00	0.00	102.90
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	10.50	100.00		
Production Cost :	0.00	212.18	100.00	0.00	212.18
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	2.75	100.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden :	0.00	0.00	0.00		
Total Cost :	0.00	315.08	100.00		
Margin :	0.000	0.000			
Selling Cost :	0.00	315.08			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/(Loss) :	0.00	( -315.08)

MIS 9/13  
u  
11-13

Date: Monday, 14/11/2005 8:43:24 AM  
 User: Alba Panzuto

## Process Sheet

<b>Customer</b>	: CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b>	: LUG ASSEMBLY 206L/407 GHW LUG
<b>Job Number</b>	: 21713		
<b>Estimate Number</b>	: 10318		
<b>P.O. Number</b>	:	<b>Part Number</b>	: D2659
<b>This Issue</b>	: 14/11/2005	<b>S.O. No.</b>	:
<b>Prsht Rev.</b>	: NC	<b>Drawing Number</b>	: D2659 REV A
<b>First Issue</b>	: / /	<b>Project Number</b>	:
<b>Previous Run</b>	:	<b>Drawing Revision</b>	: A
	<b>Type</b> : PURCHASED PARTS	<b>Material</b>	:
<b>Written By</b>	:	<b>Due Date</b>	: 30/11/2005
<b>Checked &amp; Approved By</b>	:	<b>Qty:</b>	30
<b>Comment</b>	: Est: D 02.09.20 Re-format; Incorporated D2657; D2658 KJ/RF	<b>Um:</b>	Each

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
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1.0	D2658	Lug Bracket
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2.0	21713A	LUG
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Comment: Sub-Component LUG

3.0	21713B	LUG BRACKET
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Comment: Sub-Component LUG BRACKET

4.0	D2657	Lug
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5.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
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Comment: LARGE FABRICATION RESOURCE 1

1-Weld as per Dwg D2659 using location Jig DT8484

A/R Steel Rod \_\_\_\_\_

6.0	QC5/9	WELD INSPECTION
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Comment: WELD INSPECTION

7.0	POWDER COATING	POWDER COATING
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Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

Date: Monday, 14/11/2005 8:43:24 AM  
User: Alba Panzuto

## Process Sheet

**Customer:** CU-DAR001 Dart Helicopters Services

**Drawing Name:** LUG ASSEMBLY 206L/407 GHW LUG

**Job Number:** 21713

**Part Number:** D2659

Job Number:



**Seq. #:**

**Machine Or Operation:**

**Description :**

8.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



**Comment:** INSPECT POWDER COAT/CHEMICAL CONVERSION

9.0

PACKAGING 1

PACKAGING RESOURCE #1



**Comment:** PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

10.0

DC

DOCUMENT CONTROL



**Comment:** DOCUMENT CONTROL

Inspection Level 21

Job Completion



Date: Monday, 14/11/2005 8:43:26 AM  
 User: Alba Panzuto

## Process Sheet

<b>Customer</b>	: CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b>	: LUG
<b>Job Number</b>	: 21713A		
<b>Estimate Number</b>	: 10338		
<b>P.O. Number</b>	:	<b>Part Number</b>	: D2657
<b>This Issue</b>	: 14/11/2005	<b>S.O. No.</b>	:
<b>Prsht Rev.</b>	: NC	<b>Drawing Number</b>	: D2657 REV A
<b>First Issue</b>	: / /	<b>Project Number</b>	:
<b>Previous Run</b>	:	<b>Drawing Revision</b>	: A
	<b>Type</b> : PURCHASED PARTS	<b>Material</b>	:
<b>Written By</b>	:	<b>Due Date</b>	: 30/11/2005
<b>Checked &amp; Approved By</b>	:	<b>Qty:</b>	30
<b>Comment</b>	: Est Rev: A New Issue 05-11-07 JLM	<b>Um:</b>	Each

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
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1.0	M1010B0750X02500	ASTM A21 Steel .75"x2.5"
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2.0	BAND SAW	BAND SAW
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Comment: BAND SAW

Cut blanks: 2.200" long

3.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
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Comment: HAAS CNC VERTICAL MACHINING #1

1-Machine per folio FA040 and Dwg D2657

2-Deburr

4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
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Comment: INSPECT PARTS AS THEY COME OFF MACHINE

5.0	QC8	SECOND CHECK
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Comment: SECOND CHECK

6.0	DC	DOCUMENT CONTROL
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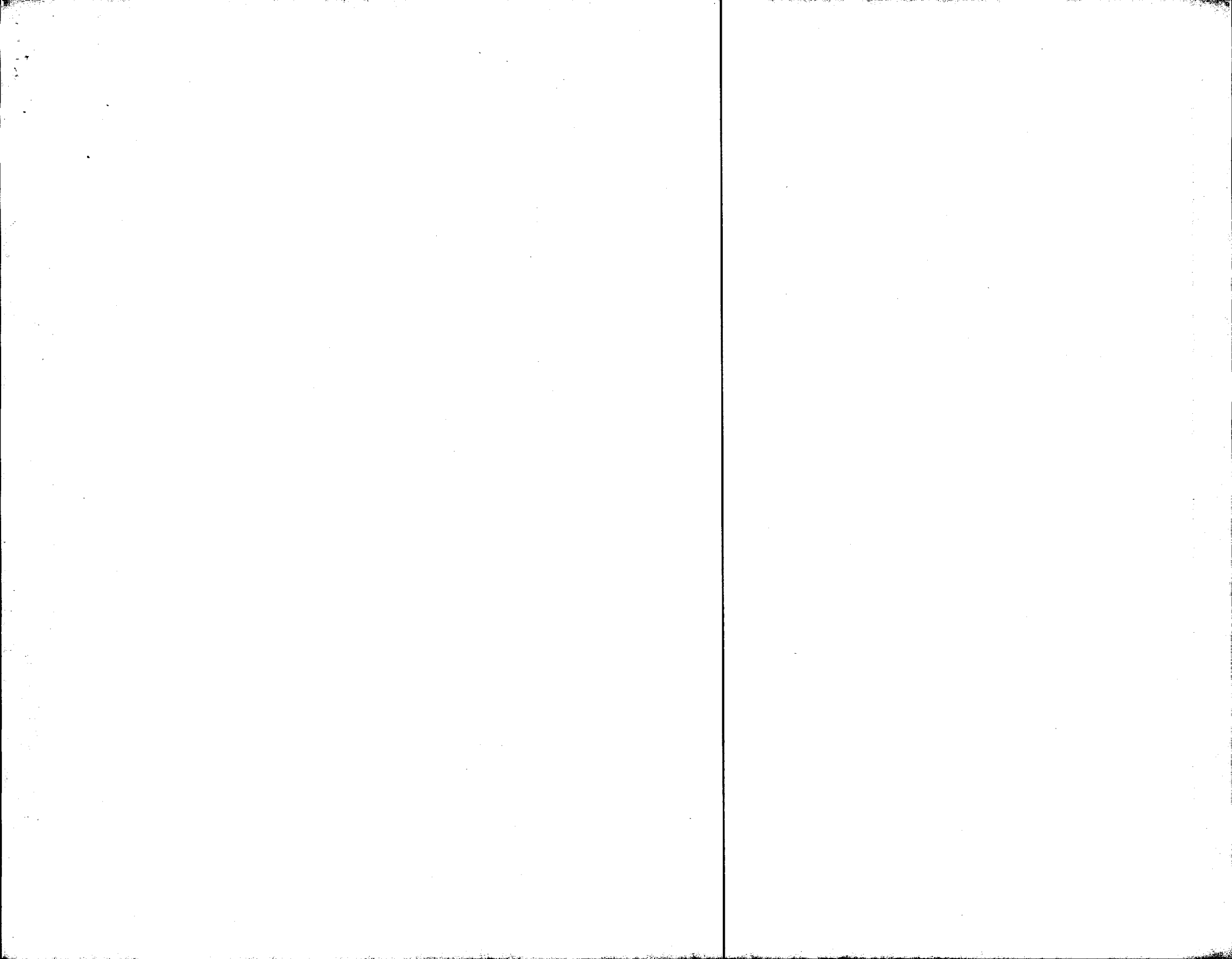


Comment: DOCUMENT CONTROL

Inspection Level 21

Job Completion





Date: Monday, 14/11/2005 8:43:27 AM  
 User: Alba Panzuto

## Process Sheet

<b>Customer</b>	: CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b>	: LUG BRACKET
<b>Job Number</b>	: 21713B		
<b>Estimate Number</b>	: 10339		
<b>P.O. Number</b>	:	<b>Part Number</b>	: D2658
<b>This Issue</b>	: 14/11/2005	<b>S.O. No.</b>	:
<b>Prsht Rev.</b>	: NC	<b>Drawing Number</b>	: D2658 REV D
<b>First Issue</b>	: / /	<b>Project Number</b>	:
<b>Previous Run</b>	:	<b>Drawing Revision</b>	: D
	<b>Type</b> : PURCHASED PARTS	<b>Material</b>	:
<b>Written By</b>	:	<b>Due Date</b>	: 30/11/2005
<b>Checked &amp; Approved By</b>	:	<b>Qty:</b>	30
<b>Comment</b>	: Est Rev:A New Issue 05-11-07 JLM	<b>Um:</b>	Each

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
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1.0	PG	PURCHASING
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**Comment:** PURCHASING

Issue P/O: \_\_\_\_\_

Laser cut per Drawing Flat pattern D2658

Material release note required

2.0	D2658	Lug Bracket
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3.0	PACKAGING 1	PACKAGING RESOURCE #1
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**Comment:** PACKAGING RESOURCE #1

Receive &amp; Inspect For Transit Damage

Ensure material certification is attached

4.0	QC6	DIMENSIONAL CHECK
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**Comment:** DIMENSIONAL CHECK

Inspect dimensions per template D2658T1

5.0	BRAKE NC	NC BRAKE
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**Comment:** NC BRAKE

1-Deburr as required.

2-Bend on CNC brake using DT8254 Identify as D2658

6.0	QC5	INSPECT WORK TO CURRENT STEP
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**Comment:** INSPECT WORK TO CURRENT STEP

Date: Monday, 14/11/2005 8:43:27 AM  
User: Alba Panzuto

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: LUG BRACKET

Job Number: 21713B

Part Number: D2658

Job Number:



Seq. #:

Machine Or Operation:

Description :

7.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL  
Inspection Level 21

Job Completion

